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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,430

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Olaf Pichler

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EXAMINER

BELLO, AGUSTIN

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

01/07/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/509,430	<b>Applicant(s)</b> PICHLER ET AL.	
	<b>Examiner</b> Agustin Bello	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/21/08 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 23-28 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Graves (U.S. Patent No. 7,212,739).

Regarding claims 23, Graves teaches an optical cross-connect, comprising: a first plurality of input channels for through data traffic (reference numeral 22 in Figure 2); a second plurality of output channels for the through data traffic (reference numeral 28 in Figure 2); a plurality of first optical switching matrices (reference numeral 12a-12m in Figure 2) comprising a first group of input ports (i.e. reference numerals 24 in Figure 2 with the exception of inputs 32 on lines K from element 14 in Figure 2) which are connected to the input channels of the cross-connect, and a first group of output ports (i.e. reference numerals 26 in Figure 2 with the

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exception of outputs 30 on lines K to element 14 in Figure 2) which are connected to the output channels of the cross-connect, for interconnecting the input channels and the output channels; each of the first switching matrices being operative for switching communication signals at a same wavelength assigned to the first optical switching matrices (column 4 line 49 – column 5 line 17); the first optical switching matrices having a second group of output ports (i.e. outputs 30 on lines K to element 14 in Figure 2) and a second group of input ports (i.e. inputs 32 on lines K from element 14 in Figure 2); a group of one or more signal shaping units formed as wavelength converters (reference numeral 14 in Figure 2), each signal shaping unit having an input connected to the second group of output ports (i.e. via outputs 30 on lines K to element 14 in Figure 2) and an output connected to the second group of input ports (i.e. via inputs 32 on lines K from element 14 in Figure 2); and switching elements (i.e. the internal switching mechanisms within switching matrices 12a-12m and 14 in Figure 2) for selectively connecting the output or the input of each of the signal shaping units to different ones of several of the second group of input ports or second group of output ports, respectively, of the first optical switching matrices.

Regarding claim 24, Graves teaches the optical cross-connect of claim 23, in that each signal shaping unit is operative for shaping an individual communication signal (inherent in the wavelength converting switch 14 of Figure 2).

Regarding claim 25, Graves teaches the optical cross-connect of claim 23, and at least one second optical switching matrix (reference numeral 62 in Figure 3) for selectively connecting the second group of output ports of the first optical switching matrices to one of the wavelength converters.

Regarding claim 26, Graves teaches the optical cross-connect of claim 25, and at least a third optical switching matrix (reference numeral 60 in Figure 3) for selectively connecting the wavelength converters to one of the second group of input ports of the first optical switching matrices.

Regarding claim 27, Graves teaches the optical cross-connect of claim 23, in that each input channel is connected to the first optical switching matrices via a wavelength demultiplexer (reference numeral 16a-16n in Figure 2) and/or the first optical switching matrices are connected to each output channel via a wavelength multiplexer.

Regarding claim 28, Graves teaches the optical cross-connect of claim 23, and comprising inputs and/or outputs (reference numeral 30, 32 in Figure 2) connected to the second group of input or output ports of the first optical switching matrices, for branching the through data traffic.

Regarding claim 30, Graves teaches the optical cross-connect of claim 23, in that the first group of input ports (reference numeral 22 in Figure 2) are connected to the input channels (reference numeral 24 in Figure 2) and/or the first group of output ports are connected to the output channels, respectively, without a switching matrix being inserted in between.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves.

Regarding claim 29, Graves differs from the claimed invention in that Graves fails to specifically teach that each wavelength converter has a wavelength-tunable transmitter part. However, the use of wavelength tunable transmitter parts in wavelength converters is well known in the art and Official Notice is given to that effect. One skilled in the art would have been motivated to employ tunable transmitter parts in the wavelength converters of Graves in order to allow for conversion of any input wavelength to any output wavelength. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include tunable transmitter parts in the wavelength converters of Graves.

***Response to Arguments***

6. Applicant's arguments filed 10/21/08 have been fully considered but they are not persuasive.

Applicant argues that the newly amended claim language distinguishes the claimed invention from the cited prior art. However, the examiner disagrees. As noted in the amended office action, the previously cited prior art continues to read on the claimed invention. Although applicant contends that the switching elements must be provided between either the outputs or the inputs of the optical switching matrices, and the input or the outputs of the signal shaping units, the examiner can not find language in the independent claim that reflects this requirement. Furthermore, as noted in the rejection of claims 25 and 26, Graves appears to meet this limitation. Moreover, applicant's claim language does not preclude the switching elements from being provided within the switching matrices since these too provide a connection between the inputs and outputs of the switching matrices.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Primary Examiner  
Art Unit 2613